

## CHAPTER 15. MANUALS, PROCEDURES, AND CHECKLISTS

### SECTION 2. APPROVAL AND ACCEPTANCE OF MANUALS AND CHECKLISTS

**2099. GENERAL.** This section contains direction and guidance for principal operations inspectors (POI) when approving or accepting an operator's manuals and checklists. This process is based on the general process for approval or acceptance described in volume 1, chapter 4, section 6, of this handbook.

*A. The Approval Process.* The approval process for a Federal Aviation Regulations (FAR) Part 121 operator's checklist normally consists of phases one, two, three, and five of the general process. It may be necessary, however, for a POI to require that phase four (the demonstration phase) be included in the approval process.

*B. The Acceptance Process.* The acceptance process for a manual, manual section, or a FAR Part 135 operator's checklist normally consists of phases one, two, and three of the general process. The operator must submit current copies of required manuals to the POI, and in the case of FAR Part 135 operators, the operator must also submit aircraft checklists for Federal Aviation Administration (FAA) review. An operator's entire manual system must be reviewed during the document compliance phase of initial certification (see volume 2, chapter 2, section 3, of this handbook). Once an operator is certified, the operator may revise, distribute, and use accepted material even though the POI has not completed a review of it. If, after a thorough review, the POI determines that portions of the manuals or checklists are unacceptable, the operator must revise the unacceptable portions.

**NOTE: Each phase of the general process for approval or acceptance is discussed as if it is separate and distinct; however, at times the phases may overlap.**

*C. Evaluation of Manuals for FAA Acceptance or Approval.* An operator may develop and publish in its manual any policy, method, procedure, or checklist that the operator finds necessary for the type of operations conducted. These policies, methods, procedures, and checklists, however, must comply with the FAR and be consistent with safe operating practices. POI's should encourage operators to be innovative and progressive in developing such policies, methods,

procedures, and checklists. The POI's role in the review process is to provide an independent and objective evaluation of the operator's manual material. The POI must ensure that the operator's material complies with the FAR, is consistent with safe operating practices, and is based on sound rationale or demonstrated effectiveness.

*D. Discrepancies.* When a POI finds a discrepancy in an operator's existing manual material, the POI shall take action to have that discrepancy resolved. Usually such discrepancies can be resolved through informal discussions. When an informal discussion cannot resolve the discrepancy, however, the POI is required to formally withdraw FAA approval or acceptance from the operator (see paragraph 2111 of this section for guidance on the formal actions that may be taken).

**2101. PHASE ONE: ESTABLISHING A FRAMEWORK FOR REVIEW.** The first phase of the approval or acceptance process begins with communication between the FAA and the operator (either a current certificate holder or an applicant for a certificate). There are three occasions when approval or acceptance of manuals and checklists is required, as follows:

- When an applicant applies for a certificate
- When an existing operator determines if a change is necessary
- When, as the result of an investigation or normal surveillance, the POI determines if a manual, a manual section, or a checklist is inadequate or deficient

*A. Determining Basic Requirements Applicable to the Operator.* The primary task of the POI during phase one is to determine the basic requirements that the operator must meet to obtain acceptance or approval of a manual or checklist. The POI must communicate these requirements to the operator. To do this, the POI should review the appropriate sections of this handbook (particularly figures 2.1.1.1. through 2.1.1.3. in volume 2, chapter 1, section 1) and any advisory circulars (AC), air carrier operating

bulletins (ACOB), exemptions the operator may hold or is applying for, operation specifications, and any deviations applicable to subjects the operator must address in its manual or checklist. Both the POI and the operator must clearly understand the topics and level of detail the operator is required to have in the material to be submitted during phase two of the process. During phase one, the POI should make the following determinations and communicate them to the operator:

- Whether the submission will involve approval or acceptance
- Whether there is a need for validation tests or other demonstrations
- Whether there is a need for supplementary documentation, analysis, or other data to support the submission

*B. Methods for Manual or Checklist Organization.*

During phase one, the POI should inform the operator that there are various methods that can be used to organize and format those manuals, manual sections, and checklists requiring FAA approval/acceptance. The POI may inform the operator of the content of the following subparagraphs, which describe at least four possible methods that an operator may use:

(1) *Limited Content.* An operator may choose to limit the content of the manual solely to approved material. When this method is used, the entire manual must be accepted and the operator may not revise the manual without additional review by the POI. While this method facilitates FAA review and acceptance, the manual may be difficult to use because the intended user may have to frequently switch back and forth between the approved checklists and other manuals containing accepted material. When the operator chooses this method, POI's must ensure that a header or footer is on each page indicating that the material is FAA-approved.

(2) *Grouping Material.* An operator may choose to group the FAA-approved material in specified sections of the manual and place accepted material in the remaining sections. With this method, the POI must ensure that a header or footer is on each page of the approved sections indicating that the material on that page is FAA-approved. The operator may submit the approved and accepted sections to the POI as separate packages.

(3) *Interspersed Material.* An operator may choose to intersperse FAA-approved material and accepted material throughout the manual. When an operator chooses this method, the POI must ensure

that the operator has clearly identified approved material each time it appears in the manual. This method of organization allows for efficient manual use, but makes the operator's publication process and the approval process difficult.

(4) *"Approval Document."* The operator may choose to place material in an "approval document" solely for the purpose of obtaining FAA approval of that material. An approval document is a document and therefore may not be used as a manual. After the document has been approved, the operator must develop user manuals that incorporate the approved information from the document along with detailed guidance and supplementary information. When this method is used, the user manuals are treated as "accepted" material and do not have to be individually approved. The POI must, however, review the user manuals to ensure that the information in them is consistent with the approval document. When using this method, the operator may revise the information in user manuals without prior FAA approval, provided the revision is consistent with, and does not conflict with, the information in the approval document. If the operator or the POI finds it necessary for the approval document to be revised, the operator must submit the proposed revision for review and approval. A revision to an approval document must be approved before the operator can incorporate the changed information into the user manuals. When an operator uses this method for submitting manual or checklist material for FAA approval, POI's must ensure that the operator has stated on the first page of the user manuals that the manual contains FAA-approved material. The manuals or checklists provided to the user, however, do not have to be specifically identified as being FAA-approved ones.

*C. Submission of Material.* During phase one, the POI should advise the operator on how to submit the documents, manuals, checklists, and subsequent revisions for approval or acceptance.

(1) *FAA Approval Submission.* For material that requires FAA approval, the POI should advise the operator to submit the following:

- Two copies of the document, manual, manual section, checklist, or revision to be approved; one copy of the printed version of the electronic checklist (as applicable); one copy of a report indicating differences between the proposed and current versions of the electronic checklist (as applicable); or
- One copy of the document, manual, manual section, checklist, or revision, and two cop-

ies of the page control sheets for the material (The page control sheets must show an appropriate revision number or original page number for each page and the effective date of each page.)

- A copy of any supporting documentation or analysis

(2) *FAA Acceptance Submission.* For material that is to be evaluated for acceptance by the FAA, the POI should advise the operator to submit the following:

- A copy of the manual, manual section, checklist, or revision to be reviewed
- A copy of the page control sheets for the material to be reviewed, when appropriate

*D. Coordination of Submitted Documents.* POI's should encourage operators to coordinate drafts of manuals and checklists and revisions before making a formal submission. Mutual agreement on major points should be reached between the operator and the POI before the material is put in final form. Operators should be advised by the POI's not to publish or distribute material requiring FAA approval until after they have received written notification that the material has been approved. An operator who prepares and distributes such material before receiving approval may have to make costly changes. The POI should encourage the operator to establish methods that streamline and simplify the process for both the operator and the POI.

**2103. PHASE TWO: PRELIMINARY REVIEW.** Phase two consists of the POI or a qualified inspector conducting a preliminary review (as opposed to a detailed analysis) of the operator's submission. This preliminary review is intended to ensure that the operator's submission is clear and contains all required documentation. The phase two review should be conducted promptly after receipt of the operator's submission. If, after preliminary review, the submission appears to be complete and of acceptable quality, or if the deficiencies are immediately brought to the operator's attention and can be quickly resolved, the POI may begin the phase three in-depth review (see paragraph 2105 of this section). If the submission is incomplete or obviously unapprovable or unacceptable, the process is terminated and the POI must immediately return the submission (preferably within 5 working days) with an explanation of the deficiencies. POI's should return the submission to the operator promptly so that the operator will not erroneously assume that the POI is continuing the process to the next phase.

**2105. PHASE THREE: IN-DEPTH REVIEW.** Phase three is a detailed analysis of the operator's submission. During this phase, a qualified inspector must review the operator's submission in detail to determine that the submission is complete and technically correct. The time to complete phase three depends on the scope and complexity of the submission. During the phase two preliminary review, the POI should determine whether the review can be completed within 10 working days. If any part of the submission requires FAA approval, and the POI determines that it will take longer than 10 working days to complete the review and approval process, the POI shall give the operator an estimate of the time it should take to complete the process.

A. The phase three review and analysis should confirm that the operator's submission conforms to, or is consistent with, the following:

- The FAR
- Criteria and guidance in this handbook
- The operator's operations specifications
- Criteria and guidance in AC's
- Applicable aircraft flight manuals, manufacturer's operating bulletins, and airworthiness directives
- Safe operating procedures
- The operator's cockpit resource management policies
- Flight Standardization Board (FSB) and Flight Operations Evaluations Board (FOEB) training recommendations

**NOTE: The direction and guidance in this chapter for reviewing procedures and checklists have been developed after consultation with knowledgeable and experienced personnel in the air transportation industry, aircraft manufacturers, and the FAA. The information presented is considered to be the best guidance currently available on the topic. POI's should realize, however, that circumstances vary widely. The best set of procedures for one circumstance may not work well in another circumstance. Two recommendations may be in conflict. In such cases, the appropriate resolution must be achieved through compromise. For example, it may be more important for an operator's checklist and procedures design policies to be internally consistent than for an individual procedure to be designed in a specific way.**

B. The POI should thoroughly consider the operator's experience and history when evaluating proce-

dures and checklists. When an operator has a history of successful operations, the POI should normally approve submissions consistent with the operator's existing procedures. When an operator has an incident or accident attributable to crew error, the POI must thoroughly examine the basic assumptions and policies in the design of the operator's checklists and operating procedures.

C. Review of electronic checklist modifications in applications with the ability to automatically detect the completion of an action shall include verification that this detection is based on monitored conditions that are consistent with the objective of the action (for example, a checklist action item for LANDING GEAR . . . DOWN would show complete on the sensing of the gear handle being down and the gear indication being down). The review and verification should be accomplished using a paper copy of the electronic checklist annotated with the monitored condition for each action whose completion is automatically detected.

**2107. PHASE FOUR: VALIDATION TESTS.** Operators should be encouraged by POI's to conduct validation tests of operating procedures and checklists during the development process. These validation tests should be conducted before the operator submits the proposed procedures and checklists for FAA review and approval. Whenever possible, the POI or a qualified inspector should observe these tests. Under certain circumstances, a validation test may have to be conducted after the phase three in-depth review. In other circumstances, especially for minor types of revisions or simple procedures or checklists, validation tests may not be warranted or appropriate. Before approving operating procedures and checklists, POI's should consider the following guidance concerning validation tests.

A. Aircraft operating procedures and checklists should be tested in realistic real-time scenarios, with a full crew complement.

B. Validation tests of normal procedures may be conducted in a flight simulator, in a flight training device, on training flights, or in conjunction with proving tests.

C. Validation tests of nonnormal, abnormal, and emergency procedures or checklists should be conducted in a flight simulator or training device. Tests of nonnormal and emergency procedures and checklists may be conducted in an aircraft; however, the operator must ensure that the test can be conducted safely. Testing of nonnormal and emergency procedures and checklists shall not be conducted during revenue service.

D. Operators may submit evidence that a qualified party (such as the manufacturer or another operator) has already conducted a validation test of a procedure or checklist. When such evidence is available, the POI should not require a validation test unless the operator's circumstances are significantly different from those in which the original tests were conducted.

E. Changes in the wording of a procedure may not actually change the procedure. In such cases, validation tests are not necessary.

F. POI's shall require that operators validate the safety and effectiveness of any addition, deletion, or change of sequence in the steps of a nonnormal or emergency checklist, through validation testing.

G. For those operators who intend to convert immediate action items to or from challenge-do-verify items on an emergency checklist, POI's shall require that they test the modified procedure to ensure that it is safe, effective, and has no adverse effects. POI's shall consult with the appropriate Aircraft Evaluation Group (AEG) before approving such changes.

H. The addition or deletion of individual items to a normal phase checklist does not usually need to be validated by a test. If the POI is of the opinion that the change significantly alters crewmember assignments or workload distribution, the POI shall require a validation test.

I. While electronic checklists must comply with the same guidelines discussed here, modification to an existing electronic checklist does not in itself require a validation test if the POI deems the modification to be minor.

**2109. PHASE FIVE: GRANTING FAA APPROVAL.** Phase five consists of the POI's granting FAA approval to manuals, manual sections, and checklists. During this phase the POI must formally notify the operator of the approval and also complete a specific record of the approval. For manuals, manual sections, and FAR Part 135 aircraft operating checklists, which are not required to have FAA approval, written notification of acceptance is not required and shall not be given (see paragraph 2099 of this section).

A. *Notification of Approval.* When the POI decides to approve a document, manual, manual section, or checklist, the following procedures apply:

(1) For a document, manual, or checklist that contains page control sheets, the POI shall annotate both copies of the page control sheets with the phrase "FAA-Approved." Under the words "FAA-Approved," POI's shall enter the effective date of approval and sign both copies. The operator may

preprint the words "FAA-Approved" and blank lines for the date and signature on the page control sheets, or the POI may use a stamp to add the approval annotation on each sheet.

(2) For manuals, manual sections, or checklists that do not contain page control sheets, the approval annotation must be placed by the POI on each page of the material. In this case the approval annotation must be made on two copies of the material. The annotation shall be the same as discussed in subparagraph 2109A(1). This procedure should be used only for very short manuals, manual sections, or checklists (usually fewer than five pages) or when the use of page control sheets is not practical or serves little purpose.

(3) When page control sheets are used, the POI shall return one copy of the annotated page control sheets to the operator. In the remaining cases, one copy of the approved material must be returned to the operator with a notification letter that states that the material is approved. This letter should also contain a statement advising the operator to maintain for its records the signed page control sheets or the material with the approval annotation. The POI shall retain the second copy of the signed page control sheets or the annotated material in the district office files.

(4) When electronic checklists are submitted for approval, the operator will prepare a release/cover sheet for the printed version of the electronic checklist. The release/cover sheet will contain the preprinted words and lines as discussed in subparagraph 2109A(1). The POI's annotation shall be the same as discussed in subparagraph 2109A(1).

*B. Notification of Disapproval.* The coordination, revision, and editing activities that take place throughout all phases of the process should eventually result in approved products. Under certain circumstances, however, it may be appropriate for the POI to terminate the process. For example, the operator may not take any action on the material for 30 days. To terminate the approval process, the POI shall return the entire submission to the operator with a letter stating that the FAA is unable to grant approval, along with the reasons why it cannot be granted.

*C. District Office Records.* The POI shall maintain a record of approval for each operator-submitted document, manual, manual section, and checklist. Records of approval to revisions of this material must also be maintained. The records should consist of page control sheets (or approved material if page control

sheets are not used), notification letters, and any other related correspondence. While superseded portions of documents, manuals, or checklists do not have to be retained, POI's may retain this type of material if they determine that it is appropriate. The POI should include with the material in the operator's file a brief memorandum containing the reasons for retaining the material.

**2111. NOTIFICATION OF DEFICIENCIES.** When any portion of approved material that is currently in use is found to be deficient, the POI shall notify the operator and request prompt action to resolve the deficiency. Deficiencies can usually be resolved through an informal process; however, when this cannot be done, the POI must formally notify the operator by letter that the deficiency must be corrected.

*A. Deficiency Involves FAA-Approved Material.* If the deficiency involves FAA-approved material, the letter must contain a clear statement that FAA approval of the material will be withdrawn as of a specific date if corrective action is not taken. The letter should also contain a statement that the material does require FAA approval and that after the specified date, any operations without that approval will be in violation of the FAR.

*B. Deficiency Involves Operator-Developed Material.*

If the deficiency involves operator-developed material that is accepted by the FAA, the letter should clearly indicate the material that is deficient and the reasons why it is deficient. If, after such notification, the operator still fails to take appropriate corrective action, the POI should attempt to negotiate a reasonable solution. When these attempts fail, the POI may, with Regional Flight Standards Division (RFS) approval, amend the operator's operations specifications to withdraw the authorization for conducting the operations affected by the deficiency.

**2113. EMERGENCY REVISIONS.** For safety reasons, an operator may sometimes find it necessary to immediately revise FAA-approved material before there is an opportunity to coordinate the revision with the POI. In such cases, the operator should take action as necessary to make the revision effective (such as alert bulletins and dispatch messages). For example, an operator may become aware of a deficiency after business hours, on a weekend, or on a holiday. In such cases, the operator should take immediate action. When emergency revisions to FAA-approved material are made, the operator shall notify the POI of the revision at the earliest practical opportunity (preferably

the first working day after the action). Since there is a wide variety of reasons that an emergency revision action may be necessary, the POI must determine the best course of action to be taken after being notified

of the emergency revision. POI's shall make assigned operators aware of this guidance.

**2114.-2124. RESERVED.**

**[PAGES 3-2075 THROUGH 3-2080 RESERVED]**